

NOV - 6 1991

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Federal Communications Commission
Office of the Secretary

In the Matter of

Petition to Amend Part 68 of the
Commission's Rules to Include Terminal
Equipment Connected to Basic Rate
Access Services Provided via
Integrated Services Digital Network
Access Technology

93-258
RM 7815

COMMENTS

Pursuant to § 1.405 of the Commission's Rules,
47 C.F.R. § 1.405, American Telephone and Telegraph
Company ("AT&T") submits the following comments on the
Petition for Rulemaking of Southwestern Bell Telephone
Company ("Southwestern Bell") to amend Part 68 of the
Commission's Rules to cover terminal equipment connected
to the network through Integrated Services Digital Network
("ISDN") access.

1. AT&T agrees with Southwestern Bell that
Part 68, which governs registration of terminal equipment
connected to the network, should be amended to address
terminal equipment to be used with ISDN. As Southwestern
Bell's Petition demonstrates, this terminal equipment must
meet certain technical specifications to avoid harm to the

0+5

network.* Adoption of these specifications by the Commission at this time will eliminate uncertainty about the standards that will apply. This will encourage manufacturers to proceed with the design and production of terminal equipment for use with ISDN services, foster uniform industry standards for ISDN, and support world wide compatibility.

2. AT&T in general supports the Rules proposed by Southwestern Bell, which are based on standards approved by the American National Standards Institute ("ANSI"),** with four important qualifications.

3. First, the Rules proposed by Southwestern Bell are limited to terminal equipment connected to the two wire Basic Rate Access ("BRA") interface. ANSI now has also approved standard specifications for terminal equipment connected to the four wire ISDN Primary Rate Access ("PRA") interface.*** The same considerations of encouraging development of ISDN terminal equipment,

* The Commission's Rules define "harm" to include electrical hazards to personnel, damage to equipment, malfunction of billing equipment, and degradation of service of others. 47 C.F.R. Section 68.3.

** ANSI T1.601-1988, Integrated Services Digital Network (ISDN)-Basic Interface for Use on Metallic Loops for Application on the Network Side of NT (Layer 1 Specification).

*** ANSI T1.408-1990, Integrated Services Digital Network (ISDN) Primary Rate-Customer Installation Metallic Interfaces Layer 1 Specification.

industry uniformity, and world wide compatibility for equipment to be connected to the BRA interface apply equally to the PRA interface. Accordingly, Part 68 should be amended at this time to provide equipment specifications for both the PRA and the BRA interfaces.

4. Second, Southwestern Bell's proposed Rule would add a new Section 68.310(m) to introduce a longitudinal-to-metallic ("L-M") balance requirement for equipment connected to the BRA interface. Section 68.310(1) of the Commission's Rules already provides appropriate parameters for longitudinal balance limitations based on the metallic-to-longitudinal ("M-L") balance. There is no valid basis to include Southwestern Bell's additional requirement in the Part 68 Rules, and it should be rejected by the Commission. In prior proceedings, the Commission has exhaustively addressed the appropriate method for longitudinal balance measurements,* and since 1975 has repeatedly rejected proposals that would have required equipment to satisfy the L-M parameter.** As the Commission has noted, the L-M parameter "is relevant to assuring noise-free operation of

* In the Matter of Petitions Seeking Amendment of Part 68 of the Commission's Rules, Third Report and Order, CC Docket No. 81-216, 59 R.R.2d 881 (1985).

** Id.; see Memorandum Opinion and Order, CC Docket No. 19528, 58 F.C.C.2d 716, 729 (1975); Memorandum Opinion and Order, CC Docket No. 19528, 64 F.C.C.2d 1058, 1068-69 (1977).

the registered equipment, but is not relevant to harm," and therefore should not be included in Part 68 of the Rules.*

5. Third, two other Sections of Part 68 not addressed in Southwestern Bell's Petition should be amended to apply to ISDN terminal equipment. Section 68.308(h)(2) should be amended to apply its limitations on encoded analog content to PRA terminal equipment, comparable to the limitations Southwestern Bell has suggested in its proposed new Section 68.308(h)(3) for BRA terminal equipment. In addition, the signaling interference requirements in Section 68.314(d)(2) should also apply to ISDN terminal equipment, in that ISDN equipment has the same potential for signaling interference as other digital equipment connected to the analog network.

6. Finally, through gain limitations should be established for equipment connected to ISDN interfaces and added to the Table of Maximum Allowable Net Amplification Between Ports in Section 68.308(b)(5). In view of the complexity of this undertaking, AT&T urges the Commission to request recommendations of the appropriate through gain limitations from the TR-41 Committee of the Telecommunications Industry Association for inclusion in

* Memorandum Opinion and Order, CC Docket No. 19528, 64 F.C.C.2d at 1069.

- 5 -

the Notice of Proposed Rule Making. The TR-41 Committee is presently considering other possible modifications to the Table.

7. For the Commission's convenience, AT&T has attached, as an Appendix, Southwestern Bell's proposed amendments as modified by AT&T to reflect the changes proposed in these Comments.

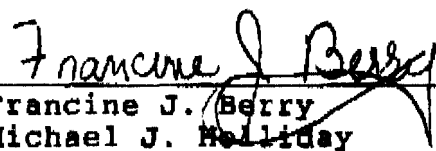
CONCLUSION

8. The Commission should issue a Notice of Proposed Rule Making for the amendment of Part 68 proposed in Southwestern Bell's Petition, as modified in accordance with AT&T's Comments and set forth in the Appendix hereto. In addition, the Commission should promptly request the TR-41 Committee to propose through gain limitations for ISDN terminal equipment.

Respectfully submitted,

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

By


Francine J. Berry
Michael J. Holliday
Lowell B. Miller

Its Attorneys

295 North Maple Avenue
Basking Ridge, New Jersey 07920

Dated: November 6, 1991

APPENDIX
PROPOSED REVISIONS
TO
PART 68
FOR
ISDN BASIC RATE ACCESS
AND
ISDN PRIMARY RATE ACCESS

Changes proposed in the Southwestern Bell Petition, as modified in accordance with the Comments of American Telephone and Telegraph Company, are shown in this Appendix as amendments to the existing Part 68 Rules. Changes to existing Rules are shown in the following manner:

- (1) Wording to be deleted is lined out, e.g.,
~~words/words~~
- (2) Wording to be added is underlined, e.g.,
words words

Underlining presently included in the rules for heading and emphasis has been deleted for clarity.

- (3) The designation

indicates that text material in existing or proposed Part 68 rules has been skipped but is unchanged.

Section 68.2 Scope

Proposed Rule

Section 68.2(a)

(a) General. Except as provided for in paragraphs (b), (c), (d), (e), ~~and (f)~~, and (j), the rules and regulations in this Part apply to the direct connection:

(9) of all terminal equipment to the Integrated Services Digital Network (ISDN) Basic Rate Access (BRA) or Primary Rate Access (PRA).

Section 68.2 Scope

Proposed Rule

Section 68.2(j)

(j) Grandfathered terminal equipment for connection to ISDN BRA or PRA:

(1) All terminal equipment, including its premises wiring and protective apparatus (if any), directly connected to ISDN BRA or PRA on [grandfather eligibility date] may remain connected for life without registration, unless subsequently modified.

(2) New installations of terminal equipment, including premises wiring and protective apparatus (if any), may be installed up to [register only date] without registration of any terminal equipment involved, provided that these terminal equipments are of a type that was directly connected to a standard ISDN BRA or PRA as of the [grandfather date]. These terminal equipments may remain connected for life without registration, unless subsequently modified.

Section 68.3 Definitions

Proposed Rule

Section 68.3

ISDN Basic Rate Access Interface: A two wire, full-duplex echo canceler hybrid interface between the terminal equipment and ISDN BRA. The tip and ring leads shall be treated as telephone connections for the purpose of fulfilling registration conditions.

ISDN Primary Rate Access Interface: A four-wire point of connection between the terminal equipment and a 1.544 Mbps ISDN PRA. The tip, ring, tip 1 and ring 1 leads shall be treated as telephone connections for the purpose of fulfilling registration conditions.

Section 68.308 Signal Power Limitations

Proposed Rule

Section 68.308(h)(2)

(2) Limitations on terminal equipment connecting to 1.544 Mbps Digital Service or ISDN PRA.

Section 68.308(h)(2)(v)

(v) Encoded analog content. If registered terminal equipment connected to 1.544 Mbps digital service or to ISDN PRA service contains an analog-to-digital converter, or generates signals directly in digital form which are intended for eventual conversion into voice band analog signals, the encoded analog contents of the subrate channels or the ISDN information bearing channels within the 1.544 Mbps signal must be limited.***

Section 63.308 Signal Power Limitations

Proposed Rule

Section 68.308(h)(3)

**(3) Limitations on terminal equipment connecting to
ISDN BRA:**

**If registered terminal equipment connecting to ISDN
BRA services contains a digital-to-analog converter, or
generates signals directly in digital form, which are intended
for eventual conversion into voiceband analog signals, the
encoded analog content of the digital signal must be limited.
The maximum equivalent power of the encoded analog signals,
other than live voice, as derived by a zero-level decoder test
configuration, shall not exceed -12dBm when averaged over any
three-second interval. The maximum equivalent power of encoded
analog signals, as derived by a zero-level decoder test
configuration, for network control signaling, shall not exceed
-3 dBm when averaged over any 3 second interval.**

Section 68.310 Longitudinal Balance Limitations

Proposed Rule

Section 68.310 (1)

(1) The maximum balance requirements for registered terminal equipment connected to digital, BRA or PRA services specified in Figure 68.310(k) shall be equaled or exceeded for the range of frequencies applicable for the equipment under test and under all reasonable conditions of the application of earth ground to the equipment. All such terminal equipment shall have a longitudinal balance in the acceptable region of Figure 68.310(k). The metallic termination used for the longitudinal balance measurements for 2.4, 4.8, 9.6, ~~and~~ 56 Kbps and BRA shall be 135 Ohms plus or minus one percent and for 1.544 Mbps shall be 100 Ohms plus or minus one percent. The longitudinal termination for these measurements shall be 500 Ohms in all cases for frequencies less than 12 kHz and shall be 90 Ohms for frequencies of 12 kHz or greater.*

* The adoption of a 90 Ohm longitudinal termination standard for frequencies of 12 kHz or greater has been proposed in a prior proceeding. See In the Matter of Petition to Amend Part 68 of the Commission's Rules to Include Terminal Equipment Connected to Public Switched Digital Service, Petition of the Ameritech Operating Companies for Rulemaking, RM 6147 (filed Nov. 9, 1987).

Section 68.314 Billing Protection

Proposed Rule

Section 68.314(d)(2)

(2) Registered terminal equipment for connection to subrate, or 1.544 Mbps, BRA or PRA digital services shall not deliver digital signals to the telephone network with encoded analog content energy in the 2450 to 2750 Hertz band unless at least an equal amount of encoded analog energy is present in the 800 to 2450 Hertz band.

Section 68.314(f)

(f) On-hook signal requirements for registered terminal equipment for connection to ISDN BRA, ISDN PRA, subrate or 1.544 Mbps digital services.

CERTIFICATE OF SERVICE

I, Rena Martens, hereby certify that a true copy of the foregoing Comments of American Telephone and Telegraph Company was served this 6th day of November, 1991, by first-class mail, postage prepaid, upon the following party:

Durward D. Dupre
Richard C. Hartgrove
Michael J. Zpevak
Thomas A. Pajda
Bruce E. Beard
1010 Pine Street
Room 2114
St. Louis, Missouri 63101
Attorneys for Southwestern
Bell Telephone Company


Rena Martens